DOCUMENT RESUME

ED 165 891 PS 010 352

AUTHOR Beckner, Tamyra L.; And Others
TITLE A Study of the Relationship of Kindergarten Class Size, Length and Scheduling of the Kindergarten Day and Teacher Self-Concept to School Success.
PUB DATE 15 Dec 78
NOTE 17p.

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS *Academic Achievement; Behavioral Science Research; Classroom Arrangement; *Classroom Research; *Class Size; Comparative Analysis; Extended School Day; Kindergarten Children; Literature Reviews; *Preschool Teachers; *School Schedules; *Self Concept; Small Classes; Student Adjustment; Teacher Attitudes; Teacher Role
IDENTIFIERS *Length of School Day

ABSTRACT

Research studies on the length and time scheduling of the school day, class sizes and teacher self-concept were examined in an attempt to determine the influence of these variables on the academic success and developmental growth of children during their kindergarten year and beyond. Section I reviews research literature on class size and discusses nine major statements on the effects of class size on both teachers and students. Section II reports on the results of several studies dealing with the length and scheduling (full day, half day, alternate full days) of the school day. Section III contains conclusions and recommendations. Major results are discussed. The literature reviewed on class size generally supported the smaller class size as being more beneficial than larger classes in the areas of cognitive development, academic development, social development, emotional development, teacher effectiveness and teacher satisfaction. The literature search on length and scheduling of the school day did not produce conclusive evidence as to the advantages of half-day or full-day programs for children. However, teachers who worked with two groups of children each day indicated frustration with trying to provide for all the needs and interests of two different sets of children. Teacher self-concept appeared to be a variable that affected student self-concept and school achievement. (Author/SE)

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A Study of the Relationship of Kindergarten Class Size, Length and Scheduling of the Kindergarten Day and Teacher Self-Concept to School Success

Prepared for the Joint Subcommittee on Certain Aspects of Kindergarten Programs

by

Tamyra L. Beckner

Connie H. Harner

Barbara M. Kipps

Deborah M. Kipps

Marlene S. McCullough

Susan J. Trippe

Margaret Z. Williams

Elsie H. Wilson

Under the Direction of

Michael D. Davis, Ph.D.

Assistant Professor of Early Childhood Education

James Madison University

December 15, 1978

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INTRODUCTION

The purpose of this study was an examination of some of the variables that may be influential in determining the success of children during their kindergarten year and beyond. Variables studied were the length and scheduling of the school day, class size and teacher self-concept. Teacher self-concept was subsumed under the other two variables after it became apparent that class size and length of day had a direct effect on teacher self-concept.

This study was done by eight graduate students at the masters level enrolled in a graduate course, Trends and Issues in Early Childhood Education, at James Madison University. This study was directed by the course instructor who served as facilitator-problem solver-editor.

Initially, a search of the pertinent literature was undertaken. The students searched the Education Index, Dissertation Abstracts and the ERIC Microfilm collection for articles related to the selected variables. In addition, a computer search from the North Carolina Science and Technology Research Center, insured that relevant materials were not missed.

Each student accepted an assignment to read specific articles, to make judgements about those related to the study, and to write brief abstracts of those that were germane. The abstracts were used as a basis for the two major sections of the paper.

Section One of the paper is a report of the literature on class size; Section Two deals with the length and scheduling of the school day; Section Three contains conclusions and recommendations. Finally, a list of references is addended.

CLASS SIZE

A search of the literature on class size yields numerous empirical and descriptive studies of the effect differing size classes have on such variables, as cognitive growth, social and emotional growth, teacher effectiveness, teacher morale and educational costs. The most complete study of class size has been made by Dr. Martin W. Olson (1972). Dr. Olson abstracted nine generalizations based on over sixty research studies related to class size. These are concerned with the effect of class size on both teachers and students.

Olson defines class size as "the number of students meeting with a teacher for a specified period of time for instructional purposes." In order to make comparisons, he defines a class of one to fifteen as very small, eleven to twenty-five as small, twenty-six to thirty-five as large, thirty-six or more as very large. All of Olson's generalizations are based on this continuim. This section of the report has been developed around Olson's framework. Each of his generalizations have been substantiated by additional references from the literature.

> Generalization I: "Teachers employ a wider variety of instructional strategies, methods and learning activities and are more effective with them when they work with fewer rather than more students."

Olson found that teachers were more innovative and also tended to use more practices developed by others when they had smaller classes. Both Varner (1968) and the New York State Teachers Association (1959) concur with Olson's findings. In addition, Nelson (1977) and Vincent (1968) suggest that teachers become more effective in meeting the goals of the classroom as class size is reduced.

Olson further suggests that there is greater student involvement in smaller classes. This he attributes to the teacher's taking a more active role. In smaller classes teachers tend to use more discussion, more laboratory experiences and more student projects. Interactive strategies that require detailed preparation and greater skill on the part of the teacher and student are more often found in classrooms with smaller numbers of children.

> Generalization II: "Students benefit from more individualized instruction when teachers work with fewer rather than more students."

Olson states that teachers with smaller classes have a greater knowledge of each child's interest, goals, styles of learning, personal background and attitudes than do teachers with larger classes. Varner (1968) and the New York State Teachers Association (1959) concur with Olson's generalization that as class size becomes smaller, individualization of instruction increases.

> Generalization III: "Students engage in more creative and divergent thinking processes when teachers work with fewer rather than more students."

Connors (1966), in a comparative study of large group kindergartens with small group kindergartens, showed children demonstrating more variety and creativity in block building and dramatic play activities in the kindergartens with smaller class size. Varner (1968) concludes that small classes also foster more creative social experience. Nelson (1977) suggests that smaller classes allow for more creative and divergent thought processes. Each of these studies supports Generalization III.

> Generalization IV: "Students learn how to function more effectively as members and leaders of groups of varying

sizes and purposes when teachers work with fewer rather than more students."

Olson states that students in smaller classes learn cooperative ways of working together. Cannon (1966) suggests that students in small classes are more secure and make friends more easily. These characteristics eventually result in greater group unity.

> Generalization V: "Students develop better relations with, and have greater interpersonal regard for, other students and other teachers when teachers work with fewer rather than more students."

Generalization V is supported by the work of several theorists and researchers. Connors (1966) feels that kindergarten children have a need for emotional support, attention, affection, and approval from a teacher. He states that the teachers in small classes tend to be more relaxed and good natured and to provide an environment for children that is characterized by warmth, courtesy, empathy, kindness, consideration and respect.

Shane (1961) suggests that smaller classes are essential to the development of an individual's full potential and to the development of human values. Cohen (1966) believes that class size must be determined so that individual children can receive adequate emotional and cognitive attention from the teacher to help them develop into independent, fully responsible learners.

Varner (1968) found that the number and quality of child-teacher contacts is higher in smaller classes than in larger ones.

> Generalization VI: "Students learn the basic skills better and master subject matter content when teachers work with fewer rather than more students."

Surveys indicate that teachers believe that achievement is related to class size. The National Education Association (1975) reported that 97.7

percent of those responding to an opinion poll felt that class size is an important factor in academic achievement. Bozzomo (1978) reported that 50 percent of those teachers responding to an opinion poll believed class size does affect achievement.

Research also supports Generalization VI. Nelson (1977) and Spitzer (1973) reported that students in smaller classes have greater mastery of subject matter than do those in larger classes. Balon (1973) found that class size has a significant effect on achievement in reading with greater achievement occuring in classes with fewer students. Woodson (1968) found that, within a given district, the relationship between achievement and class size has a positive correlation which is constant, regardless of subject area or pupil ability. According to Woodson, smaller classes is a significant factor in helping children obtain greater achievement.

The New York State Teachers Association (1959) reported that teachers who are concerned with discovering individual learning difficulties, providing guidance, direction, stimulation, and remedial procedures opt for smaller classes. A paper sponsored by the American Federation of Teachers (1973) stated that the particular learning needs of young children can best be met in an educational environment which permits increased personal attention from classroom teachers. The Association recommends a class size of fifteen for Early Childhood grades.

> Generalization VII: "Classroom management and discipline are better when teachers work with fewer rather than more students."

Connors (1966) suggests that there is a higher level of frustration and a greater incidence of aggressive acts among children in large classes than in small classes. He feels that this occurs because crowded classes force

children to wait for materials, to take turns on equipment, etc. The waiting leads to pushing and fighting because the children become anxious from inactivity.

> Generalization VIII: "Teacher attitude and morale are more positive when teachers work with fewer rather than more students."

Olson found that teachers received more satisfaction and enjoyment out of teaching and had a greater sense of achievement when they had smaller classes. In large classes teachers are more often frustrated because of the greater amount of responsibility, paperwork, planning and discipline problems. His findings are supported by the NEA (1975), Passerella (1977), Connors (1966), Nelson (1977), and Varner (1968).

> Generalization IX: "Student attitudes and perceptions are more positive when teachers work with fewer rather than more students."

Olson reported that students in smaller classes have better attitudes about teachers and instruction, greater trust in their peers and teachers and more confidence in themselves than do children in larger classes. McKeachie (1971) found that small classes are more effective for attaining goals concerned with positive attitude change than are large classes.

Summary

The literature has generally supported the smaller size class as being more beneficial than larger classes in the areas of cognitive development, academic development, social development, emotional development, teacher effectiveness, and teacher satisfaction. While most of these studies did not indicate a specific size, the studies which dealt with kindergarten classes in isolation felt that they should not exceed twenty, but they recommended an optimal number of fifteen to eighteen.

LENGTH OF THE KINDERGARTEN SCHOOL DAY

A search of the literature related to the length of the kindergarten school day revealed a variety of schedule patterns. Comparisons of the effectiveness of half-day with full-day programs* and of half-day with full-day-alternate-day programs** have been made. The effects of assigning one group of children to a teacher and classroom in the morning and another group to the same teacher and classroom in the afternoon has also been studied.

Full-day kindergartens have been considered by some educators to be more advantageous to children's learning than half-day programs because of the increased amount of time spent in the classroom. The studies reviewed, however, did not yield conclusive evidence. Groton and Robinson (1968) concluded that the extra time children gained in a full-day session would provide children a greater opportunity for learning and development at a crucial time in their lives. The authors felt that the large proportion of the schedule which must be devoted to routines, such as cleaning-up, dressing, undressing, and transporting children to and from school leaves insufficient time for children to participate in meaningful learning activities.

An extended day program (4 1/2 to 5 hours) was developed in the

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*For the purposes of this report half-day programs will be those that are approximately three hours in length, full-day programs are those that are approximately five or more hours in length.

**Full-day-alternate-day programs are those that meet every other day for a full day.

Ferguson Florrissant School District in Missouri (1974) to provide a curriculum stressing cognitive, social and physical development. The researchers concluded that the increased time in school gave the children the opportunity for a greater variety of learning experiences. The program offered the children more personalized instruction and appeared to provide for the establishment of better parent-teacher relationships.

Winter and Klein (1973), in a study sponsored by the Bureau of Elementary and Secondary Education, attempted to determine the effect of extending the kindergarten day for groups of educationally advantaged and disadvantaged children. Both groups participated in similar kindergarten activities in the morning. The disadvantaged children received individual tutoring during a ninety-minute afternoon period; the advantaged children spent the additional time in learning center activities or in special projects. The two experimental full-day and two control half-day groups were matched on the basis of standardized tests and teacher ratings. Both experimental groups showed significant growth over that achieved by the control groups. The greatest gains were made by the disadvantaged experimental children.

The previously cited research supports a full-day kindergarten. Johnson (1974) holds an opposite view. In a three-year study comparing the effectiveness of full-day programs with half-day programs, Johnson found no significant difference between the two groups as measured by tests of readiness and achievement. There was also no significant difference between the two groups in first grade placement and reading-level attainment one year later.

Three studies have compared school adjustment and academic achievement of children in full-day, alternate-day and half-day daily programs. The results are not conclusive.

A study of the effectiveness of the full-day-alternate-day kindergarten and of the half-day, every day program was made in the Grand Rapids Independent School District, Minnesota in 1974. Results of the four year study revealed no significant difference in readiness for school as tested by the Metropolitan Readiness Test (Form B) between children in the two schedule patterns.

The Grand Rapids study found that both parents and teachers favored the full-day-alternate-day program. They felt that the full-day-alternate-day schedule was more conducive to meeting the physical, social, and instructional needs of children. Parents and teachers also felt that children were more actively involved when they were in the full-day-alternate-day program and that there was more time for free play activities on the full-day-alternate-day schedule.

A Minnesota Department of Education study (1972) showed advantages in readiness abilities for children attending school on a full-day-alternate-day schedule when compared to those in half-day every day sessions. Children in half-day classes scored significantly higher on the specific readiness areas of naming numerals and sounds of letters. This study found that parents favored full-day-alternate-day sessions. However, only 35 percent of the teachers preferred the pattern; 40 percent of the teachers disapproved it. Teachers' negative reactions to full-day-alternate-day sessions included their evaluation that the day is too long and that carry over from one meeting day to the next seemed difficult for the children.

Helen Cleminshaw (1977) found significant academic differences between full-day-alternate-day and half-day every day programs. Full-day students were more successful on academic outcomes than were those in the half-day

sessions. Parents favored the all day programs because of convenience. Student participation and interest were higher in the full-day-alternate-day than in half-day programs.

The "Two for One" morning and afternoon program is a format in which the teacher is responsible for one group of children in the morning and for a second group in the afternoon. Harris (1969) states that the "Two for One" schedule causes schools to eliminate many important features of "effective and appropriate" kindergartens. She feels that it is difficult for a teacher with morning and afternoon classes to provide for all of the needs and interests in both classes. The shortened day cuts into the children's projects and constructions, making it impossible at times for them to continue their work to completion. Sharing the classroom prohibits children from leaving projects to work on over many days, since this practice requires classroom space and materials needed by the next group. When two groups must share the space for display and storage the contribution to a positive self-image through children's showing their work is also limited. A final conclusion of the Harris study was that teachers found working with two groups of children physically and mentally exhausting.

Many school districts are concerned that a full-day program may cost more than a half-day. However, the Gorton and Robinson (1968) study suggests that while the initial cost may be greater, it will essentially be offset by the school district receiving full state aid for each child. The supply and maintenance costs will be less because of the fewer number of children using a room and its equipment. There is also a saving in transportation costs because the noon day trip to switch class groups is eliminated.

Summary

The results of the literature search on length and scheduling of the school day does not produce conclusive evidence on the advantages of half-day or full-day programs to children. A more important factor may be related to whether teachers have one or two groups of children a day. Teachers who work with two groups indicated frustration with trying to provide for all the needs and interests of two different sets of children a day. They felt that there was not suitable time or space to meet the needs of each individual child.

CONCLUSIONS

The search of the literature on class size has revealed a positive correlation between small class size and positive teacher self-concept, positive child self-concept, children's school success and increased child-child interaction. As class size is decreased children do better on the previously mentioned variables.

Olson's nine generalizations and the additional studies that were reported support the premise that smaller classes are more beneficial to the development of the whole child. There were no cases where either research or theorist supported large classes. It is imperative that school districts keep kindergarten class sizes at a level that will insure the optimal growth for children.

The studies on length and scheduling of school day tended to show no significant difference in readiness or achievement. It is necessary to keep in mind that readiness and achievement are variables that can be easily measured. There are other benefits of full day programs that are more difficult to evaluate. The leisurely pace of the extended day presents greater

opportunities for socialization, for physical development and for cognitive problem solving. The House Joint Resolution is concerned with children's developing positive attitudes toward self and school and with kindergarten children's having experiences that are consistent with their learning styles and developmental levels. The full-day program appears to offer more potential for meeting these goals than does a half-day.

While research on the length of school day is somewhat conflicting, the importance of a teacher's having only one group of children is evident. The teacher frustration which arises from working with two groups causes lower teacher self-concept, which in turn causes lower student self-concept. This affects a child's cognitive development and socialization.

The third and last conclusion to be drawn from this study is that teacher self-concept is a variable that can affect many aspects of the kindergarten program. In support of this conclusion Edeburn and Landry (1974) found that student self-concept was significantly related to teacher self-concept. As the teacher's self-concept improved so did the self-concepts of the children. Aspy (1975) reported that a teacher's self-concept was positively related to their children's achievement as measured by the Stanford Achievement Test.

From the previously cited studies you can infer that there is a relationship between class size, teacher self-concept and child self-concept. As class size is reduced, teacher self-concept improves; children's self-concept and achievement also improves. However, if class size is increased, not only is teacher self-concept negatively affected, but there is also a negative effect on children's self-concept and children's achievement.

Educators must be aware of the importance of teachers having the positive self-concept necessary to insure quality educational experiences for

children. Teachers must be given the respect and consideration due professionals.

RECOMMENDATIONS

1. Kindergarten class size should be established at fifteen to eighteen students with a maximum allowable number of twenty.
2. Kindergarten should be on a full-day schedule with a minimum of five hours per day. Teachers should not be assigned two groups of children per day.

REFERENCES

American Federation of Teachers. "COMPAS: A National Design for the Elementary School." ERIC 080-200, 1973.

Aspy, David N. "The Effect of Teacher's Inferred Self-Concept Upon Student Achievement." Journal of Educational Research, 68 (9), May/June 1975, 386-89.

Balow, Irving H. "A Longitudinal Evaluation of Reading Achievement in Small Classes." Elementary English, 46 (1), February 1969, 184-7.

Bozzomo, Lawrence E. "Does Class Size Matter?" National Elementary Principal, 57 (2), January 1978, 78-81.

Cannon, Gwendolyn McConkie. "Kindergarten Class Size--A Study." Childhood Education, 43 (1), September 1966, 9-11.

Cleminshaw, Helen K., Ph.D. "Academic and Social Effects of All-Day, Alternate Day Kindergarten versus Half-Day, Everyday Kindergarten in Traditional and Open-Classroom Settings." Dissertation Abstracts International (Humanities and Social Sciences), 38, 1978, 7133-A.

Cohen, Dorothy. "Dependency and Class Size." Childhood Education, 43 (1), September 1966, 16-19.

Edeburn, Carl E., Richard G. Landry. "Teacher Self-Concept and Student Self-Concept." ERIC 088-892, April 1974.

Ferguson-Florrisant School District. "Expanding Early Education: The Extended Day Kindergarten." ERIC 107-367, 1974.

Gornowich, Donald J., et.al. "A School District Looks at an Alternative to Half-Day, Every Day Kindergarten Programs." ERIC 107-347, 1974.

Gorton, Harry B., Richard L. Robinson. "A Study of the Kindergarten Program, Full-Day or Half-Day." ERIC 017-327, 1968.

Harris, Cornellia C. "His Own Hello." Young Children, 25 (2), December 1969, 89-95.

Johnson, Edith. "An Experimental Study of the Comparison of Pupil Achievement in the All Day Kindergarten and One Half Day Control Group." ERIC 115-361, 1974.

McKeachie, W. J., et.al. "Student Ratings of Teacher Effectiveness: Validity Studies." American Educational Research Journal, 8 (3), May 1971, 435-45.

Minnesota Department of Education. "Kindergarten Evaluation Study: Full Day Alternate Day Programs." ERIC 070-529, 1972.

National Education Association. "The Question of Class Size." Educators Digest, No. 2040. ERIC #ED133-325, 1972.

National Education Research. "Teacher Opinion Poll--Class Size." Today's Education, 64 (1), January 1975, 109.

Nelson, Alf. "Class Size." Pennsylvania School Journal. 125 (3), March 1977, 144.

New York State Teachers Association. "The School Day, The School Year and Work Load of Teachers. A Study of Educational Implications." ERIC 11-470, 1959.

Olson, Martin N. "Ways to Achieve Quality in School Classrooms: Some Definitive Answers." Phi Delta Kappan, 53 (1), September 1971, 63-5.

Passarella, Lawrence A., Ed.D. "The Relationship of Class Size to Teacher Morale and to Teachers Perceptions of Their Own Educational Effectiveness." Dissertation Abstracts International (Humanities and Social Sciences), 38, 1977, 3817-A.

Shane, Harold G. "Class Size and Human Development." National Education Association Journal, 50 (1), January 1961, 30-2.

Spitzer, Herbert F. "Class Size and Pupil Achievement in Elementary Schools." Elementary School Journal, 55 (1), October 1954, 82-6.

Varner, Sherrell E. "Class Size." ERIC 32-6[illegible]4, 1968.

Vincent, William S. "Further Clarification of the Class Size Question." ERIC 034-303, 1968.

Winter, Mildred, Alice E. Klein. "Extending the Kindergarten Day: Does it Make a Difference in the Achievement of Educationally Advantaged and Disadvantaged Children." ERIC 087-534, 1973.

Woodson, Marshall S. "Effect of Class Size as Measured by an Achievement Test Criterion." ERIC 021-320, January 1968.